AMENDMENT

(amendment based upon the provisions of Article 11 of the Patent Law)

To: Examiner of the Patent Office

1. Identification of the International Application

PCT/JP02/08389

2. Applicant (Common Reqresentative)

Name	:	NIHON UNIVERSITY
Address	:	8-24, Kudan-minami 4-chome, Chiyoda-ku, Tokyo 102-8275, JAPAN
Country of nationality	:	JAPAN
Country of residence	:	JAPAN

3. Agent

Name	:	(8578) ISHIHARA Masanori
Address	:	4F, Miyamasuzaka ST Building, 8-6, Shibuya 1-chome, Shibuya-ku, Tokyo 150-0002, Japan

4. Item to be Amended

Description and Claims

5. Subject Matter of Amendment

In Description,

(1) On page 3, between lines 13 and 14, we amend to insert the following paragraph:

" a plurality of resilient arm members each having one end and the other end, the one end supporting thereon corresponding one of the plurality of probes and the other end being firmly fixed to the probe base;",

(2) On page 3, line 15, after "detecting" we amend to add "the hysteresis of",

(3) On page 3, line 19, we amend to change the word "change" to "hysteresis of changes in distance",

(4) On page 4, between lines 12 and 13, we amend to insert the following paragraph:

" a plurality of resilient arm members each having one end and the other end, the one end supporting thereon corresponding one of the plurality of probes and the other end being firmly fixed to the probe base;" and

(5) On page 4, line 23, after "hardness" we amend to add "and deviation".

In Claims,

(1) In Claim 1 on page 20, between lines 12 and 13, we amend to insert the following paragraph:

" a resilient arm member having one end and the other end, said one end supporting said at least one probe thereon and said the other end being firmly fixed to said probe base;",

(2) In Claim 1 on page 20, line 14, after "detecting" we amend to add "hysteresis of",

(3) In Claim 1 on page 20, line 18, we amend to change the word "change" to "hysteresis of changes in distance",

(4) In Claim 2 on page 21, lines 2 to 3, we amend to change the wording "a plurality of said probes are" to "said resilient arm member comprises a plurality of spring members, a plurality of said probes being", and

(5) In Claim 5 on page 22, between lines 3 and 4, we amend to insert the following paragraph:

" a resilient arm member having one end and the other end, said one end supporting said at least one probe thereon and said the other end being firmly fixed to said probe base;".

6. List of Attached Documents

(1) Replacement sheets of pages 3 and 3/1 and, 4 and 4/1 of the description.

(2) Replacement sheets of pages 20 and 20/1, 21 and 21/1, 22 and 22/1 of the claims.

body.

According to one aspect of the invention, there is provided an elasticity measuring device for being inserted into a canal part of a human body and for measuring elasticity of the inner side of the canal part of the human body, the device comprising:

a probe base for being inserted into the canal part of the human body;

a plurality of probes symmetrically arranged around the probe base, which are located near the inner side of the canal part of the biological tissue when the device is inserted into the canal part and are driven to press onto and return from the biological tissue;

a plurality of resilient arm members each having one end and the other end, the one end supporting thereon corresponding one of the plurality of probes and the other end being firmly fixed to the probe base;

a stress detection sensor provided on each of said probes, for detecting the hysteresis of the stress applied to the biological tissue based on the repulsion from the biological tissue when said probes are driven to press onto and return from the biological tissue; and

a deviation detection sensor for detecting the hysteresis of changes in distance of said stress detection sensor with respect to the probe base,

wherein the elasticity of the biological tissue is measured based on the hardness and deviation characteristics when the probes are driven to press onto and return from the biological tissue.

According to another aspect of the invention, there is also provided an elasticity measuring device for being inserted into a canal part of a human body and for measuring elasticity of the inner side of the canal part of the biological tissue, the device comprising:

a probe base for being inserted into the canal part of the human body;

a plurality of probes symmetrically arranged around the probe base, which are located near the inner side of the canal part of the biological tissue when the device is inserted into the canal part and are driven to press onto and return from the biological tissue;

a plurality of resilient arm members each having one end and the other end, the one end supporting thereon corresponding one of the plurality of probes and the other end being firmly fixed to the probe base;

a hardness sensor provided on each of the probes, for outputting a signal indicative of hardness of the biological tissue;

a hardness detection means for detecting the hardness of the biological tissue based on the signal from the hardness sensor; and

a deviation detection sensor for detecting the deviation magnitude of the hardness sensor with respect to the probe base,

wherein the elasticity of the biological tissue is measured based on the hardness and deviation characteristics when the probes are driven to press onto and return from the biological tissue.

CLAIMS

1.(Amended) An elasticity measuring device for being inserted into a canal part of a human body and for measuring elasticity of the inner side of the canal part of the human body, said device comprising:

a probe base for being inserted into the canal part of the human body;

at least one probe arranged around said probe base, which is located near the inner side of the canal part of the human body when the device is inserted into the canal part and is driven to press onto and return from the biological tissue;

a resilient arm member having one end and the other end, said one end supporting said at least one probe thereon and said the other end being firmly fixed to said probe base;

a stress detection sensor provided on said probe, for detecting hysteresis of the stress applied to the biological tissue based on the repulsion from the biological tissue when said probe is driven to press onto and return from the biological tissue; and

a deviation detection sensor for detecting the hysteresis of changes in distance of said stress detection sensor with respect to said probe base,

wherein the elasticity of the biological tissue is

measured based on the stress and deviation magnitude characteristics when the probe is driven to press onto and return from the biological tissue.

2.(Amended) An elasticity measuring device for biological tissue according to claim 1, in which said resilient arm member comprises a plurality of spring members, a plurality of said probes being symmetrically arranged around said probe base through corresponding spring members.

3. An elasticity measuring device for biological tissue according to claim 2, in which said deviation detection sensor comprises a pair of light emitting element and light receiving element, said light emitting element being secured on a surface of said probe base and said light receiving element being secured on said spring member so as to oppose to each other.

4. An elasticity measuring device for biological tissue according to claim 1, in which said stress detection sensor comprises a distortion guage.

5.(Amended) An elasticity measuring device for being inserted into a canal part of a human body and for measuring elasticity of the inner side of the canal part of the human body, said device comprising:

a probe base for being inserted into the canal part of the human body;

at least one probe arranged around said probe base,

which is located near the inner side of the canal part of

the biological tissue when the device is inserted into the canal part and is driven to press onto and return from the biological tissue;

a resilient arm member having one end and the other end, said one end supporting said at least one probe thereon and said the other end being firmly fixed to said probe base;

a hardness sensor provided on said probe, for outputting a signal indicative of hardness of the biological tissue;

a hardness detection means for detecting the hardness of the biological tissue based on the signal from said hardness sensor; and

a deviation detection sensor for detecting the deviation magnitude of said hardness sensor with respect to said probe base,

wherein the elasticity of the biological tissue is measured based on the hardness and deviation characteristics when the probe is driven to press onto and return from the biological tissue.

6. An elasticity measuring device for biological tissue according to claim 5, wherein said hardness sensor comprises:

a vibration element; and

a vibration detector, and wherein said hardness detection means comprises:

an input terminal connected to said vibration detector;